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10/695,313

10/28/2003

Arya R. Behzad

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03/21/2005

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EXAMINER

LE, DINH THANH

ART UNIT

PAPER NUMBER

2816

DATE MAILED: 03/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

EX

**Office Action Summary**

Application No.

10/695,313

Applicant(s)

BEHZAD ET AL.

Examiner

DINH T. LE

Art Unit

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 November 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 11-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1112 is/are rejected.
- 7) ☐ Claim(s) 13-17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/1/04</u> . | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 2816

## NON-FINAL REJECTION

The rejection under 35 USC 112, second paragraph, is withdrawn because the claims 5-10 were cancelled and claims 11-17 were amended.

The rejection under judicially created doctrine of obviousness type double patenting in view of the Terminal Disclaimer filed 11/26/04.

The new prior art cited in the PTO 1449 filed 10/01/04 necessitated a new ground of rejection as below:

### *Claim Rejections*

#### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-12 are rejected under 35 USC 103 (a) as being unpatentable over Katsuo (JP359018421) in view of Feldman et al (US 3,796,945) and further in view of Nabicht et al (US 6,621,346).

Figure 4 of Katsuo discloses a high pass filter circuit comprising a capacitor (3a) coupled to a variable attenuator (3b) but does not disclose that the variable attenuator includes a plurality of resistors for providing taps and a plurality of MOSFET switches respectively connected to a respective tap through a respective resistor, wherein each gate of the MOSFET switch being controlled by a control circuit. Feldman et al teaches in Figure 1 an digital

Art Unit: 2816

attenuator comprising resistors (110-116) and switches (138-144), each switch being controlled by a respective control circuit (148-154) for producing predetermined discrete increments of attenuation over a large range of attenuation, see lines 25-30, column 1. However, Feldman does not teach that the switches (138-144) are the MOSFET transistors. Nabicht teaches in Figure 5 a variable attenuator (54C) comprising MOSFET switches (S12, S23, S3X) for reducing power consumption. It would have been obvious to a person having skill in the art at the time the invention was made to employ the digital attenuator taught by Feldman et al and the MOSFET switches taught by Nabicht in the circuit of Katsuo for the purpose of producing predetermined discrete increment of attenuation over a large attenuation range and for reducing the power consumption of the filter since the MOSFET consumes less power than the bipolar transistor.

With regard to claim 12, the claimed amplifiers are read on the transistors (148-154) in Figure 1 of Feldman et al.

### ***Allowable Subject Matter***

Claims 13-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The claims are allowed because the prior art does not show the amplifier comprising tristate buffer and a pull-up resistance as combined in claim 13 and capacitors disposed between the gate and source of a corresponding MOSFET device as combined in claim 16.


### ***Conclusion***

Art Unit: 2816

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DINH T. LE whose telephone number is (571) 272-1745. The examiner can normally be reached on Monday-Friday (8AM-7PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIMOTHY CALLAHAN can be reached at (571) 272-1740.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



DINH LE  
Primary Examiner